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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/713,616

11/13/2003

Vinod Sharma

139-033U

2521

23429

7590

05/08/2007

GREGORY SMITH & ASSOCIATES

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EXAMINER

WONG, KIN C

ART UNIT

PAPER NUMBER

2627

MAIL DATE

DELIVERY MODE

05/08/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/713,616

Applicant(s)

SHARMA ET AL.

Examiner

K. Wong

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 13, 14, 23 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 13 and 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

This response to amendment filed on 10/30/06.

***Election/Restrictions***

Applicant's election without traverse of claims (23-24) in the reply filed on 2/21/07 is acknowledged.

Claims (13-14) are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claims, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 2/21/07. These claims are required to be cancelled in the next reply.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 24, line 4; the phrase "first control signal" is not clear because the subsequent recitation fails to recite additional control signal.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims (23-24) are rejected under 35 U.S.C. 102(b) as being anticipated by Yan (6025988).

Regarding claim 23: Yan discloses an interconnecting circuit (as depicted in figure 2 of Yan and associated descriptions for details) for a voice-coil actuator with multiple sliders (as depicted in figure 15 of Yan and see associated descriptions for details) and corresponding micro-actuators (element 24 in figure 2 and associated descriptions for details) in a disk drive, including:

- a main flex circuit (element 14 in figure 2) with interconnections for a read-write preamplifier (element 44 in figure 2), a ribbon cable socket (is inherent within the reference), a micro-actuator source control bundle (as depicted in figure 9 of Yan and see associated descriptions for details), and a bridge coupling region (col. 7, lines 11-25 of Yan);

- a plurality of bridge flex circuits each including interconnected bridge flex circuit coupling sites, slider contact areas, and test probe areas (as depicted in figure 2 and see associated descriptions for details);

- a cleavage line (element 40 in figure 2 and see associated descriptions for details) included in each of the plurality of bridge flex circuits and providing for a separation and removal of test probe areas after a manufacturing test for continuity (col. 5, lines 29-42 of Yan); and

- a reflow solder connection of the main flex circuit and all the plurality of bridge flex circuits at the bridge coupling region and bridge flex circuit coupling sites (in col. 7, lines 17-34 where Yan describes connections of the flex circuit).

Regarding claim 24: Yan discloses a flex circuit for a disk drive voice-coil actuator (as depicted in figure 1 of Yan and see associated descriptions for details), including:

a source control bundle for positioning control of a plurality of read-write heads and micro-actuators included in a voice-coil actuator for a disk drive (col. 7, lines 11-16 of Yan);

a first control signal included in the source control bundle (in col. 7, lines 11-16 where Yan describes at least one control/communication link with the micro-actuator (s) in the head stack assembly);

a connection for the first control signal to the control bundle (col. 7, lines 11-16);  
and a bridge coupling region providing connections for each micro-actuator between the source control bundle on a main flex circuit and a microactuator control bundle on a bridge flex circuit for each of the read-write heads (as depicted in figure 15 of Yan and see associated descriptions for details).

### ***Response to Arguments***

Applicant's arguments filed 10/30/06 have been fully considered but they are fully not persuasive because the arguments are directed to the new amended claims.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Slezak (5121273) and Yan (7059868) are cited for flex circuit bundle with micro-actuators control path in a head stack assemble.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Wong whose telephone number is (571) 272-7566.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, H. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Art Unit: 2627

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

kw

30 Apr 07



K. WONG  
PRIMARY EXAMINER